

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 09 JUN 2005

WIPO

PCT

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/050289

International filing date (day/month/year)
25.01.2005

Priority date (day/month/year)
30.01.2004

International Patent Classification (IPC) or both national classification and IPC
G02B3/14, G02B26/02

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V. et al.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for International preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

THEOPISTOU, P

Telephone No. +49 89 2399-2471



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050289

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050289

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2,3,5,6
	No: Claims	1,4,7,8,9
Inventive step (IS)	Yes: Claims	
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and /or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Re Item V.

1 Reference is made to the following documents:

- D1: WO 03/069380 A (KONINKLIJKE PHILIPS ELECTRONICS N.V.; FEENSTRA, BOKKE, J; KUIPER, STEIN) 21 August 2003 (2003-08-21)
D2: US 2001/017985 A1 (TSUBOI TAKAYUKI ET AL) 30 August 2001 (2001-08-30)
D3: US-A-2 300 251 (FLINT EDWARD F) 27 October 1942 (1942-10-27)

2 INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (cf. Fig. 4) (the references in parentheses applying to this document):

An optical lens system comprising a first lens group (104), a second lens group (106) and a stop (116, 118), at least one of said lens groups comprising an optical element having

- a chamber (105) having an entrance window, an exit window and an optical axis extending longitudinally through the chamber,
- the chamber comprising a first fluid (A) and a second fluid (B) in contact over a meniscus (114) extending transverse the optical axis, the fluids being substantially immiscible,
- at least one of the entrance window or exit window comprising a surface being in contact with one of the first or the second fluid, said surface having a curvature (cf. Fig. 4).

3 DEPENDENT CLAIMS 2-9

Dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

The reasons are as follows:

- Claims 2,3: As indicated by D1 (pg. 7, ln. 19-23) and D2 (cf. par. [0056]-[0053]) the curvature of the meniscus is selected according to design options.
- Claim 4: The materials used in documents D1 and D2 fulfill the different Abbe numbers of claim 4. In the same context of variable focus lenses comprising fluids, D3 also (cf. pg. 4, left column, lines 21-43) indicates selection of the materials to minimise chromatic aberrations, which is the same problem as mentioned in the current application (cf. originally filed description pg. 8, ln. 10-14).
- Claims 5,6,7: A stop is typically placed where there is a need for it (cf. D1; Fig. 4).
- Claims 8,9: The known prior art devices are typically used in displays, cameras and other mobile devices.

PCT REQUEST

Print Out (Original in Electronic Form)

VIII-2-1	Declaration: Entitlement to apply for and be granted a patent Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate: Name (LAST, First)	in relation to this international application KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled to apply for and be granted a patent by virtue of the following:
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, HENDRIKS, Bernardus, H., W.
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, KUIPER, Stein
VIII-2-1(x)	This declaration is made for the purposes of:	all designations except the designation of the United States of America

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 09 JUN 2005

WIPO

PCT

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/IB2005/050289

International filing date (day/month/year)
25.01.2005

Priority date (day/month/year).
30.01.2004

International Patent Classification (IPC) or both national classification and IPC
G02B3/14, G02B26/02

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V. et al.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

THEOPISTOU, P

Telephone No. +49 89 2399-2471



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050289

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/050289

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2,3,5,6
	No: Claims	1,4,7,8,9
Inventive step (IS)	Yes: Claims	
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43*bis*.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43*bis*.1 and 70.9)

see form 210

Re Item V.

1 Reference is made to the following documents:

- D1: WO 03/069380 A (KONINKLIJKE PHILIPS ELECTRONICS N.V.; FEENSTRA, BOKKE, J; KUIPER, STEIN) 21 August 2003 (2003-08-21)
D2: US 2001/017985 A1 (TSUBOI TAKAYUKI ET AL) 30 August 2001 (2001-08-30)
D3: US-A-2 300 251 (FLINT EDWARD F) 27 October 1942 (1942-10-27)

2 INDEPENDENT CLAIM 1

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.
Document D1 discloses (cf. Fig. 4) (the references in parentheses applying to this document):

An optical lens system comprising a first lens group (104), a second lens group (106) and a stop (116, 118), at least one of said lens groups comprising an optical element having

- a chamber (105) having an entrance window, an exit window and an optical axis extending longitudinally through the chamber,
- the chamber comprising a first fluid (A) and a second fluid (B) in contact over a meniscus (114) extending transverse the optical axis, the fluids being substantially immiscible,
- at least one of the entrance window or exit window comprising a surface being in contact with one of the first or the second fluid, said surface having a curvature (cf. Fig. 4).

3 DEPENDENT CLAIMS 2-9

Dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

The reasons are as follows:

- Claims 2,3: As indicated by D1 (pg. 7, ln. 19-23) and D2 (cf. par. [0056]-[0053]) the curvature of the meniscus is selected according to design options.
- Claim 4: The materials used in documents D1 and D2 fulfill the different Abbe numbers of claim 4. In the same context of variable focus lenses comprising fluids, D3 also (cf. pg. 4, left column, lines 21-43) indicates selection of the materials to minimise chromatic aberrations, which is the same problem as mentioned in the current application (cf. originally filed description pg. 8, ln. 10-14).
- Claims 5,6,7: A stop is typically placed where there is a need for it (cf. D1; Fig. 4).
- Claims 8,9: The known prior art devices are typically used in displays, cameras and other mobile devices.